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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,402	01/09/2004	Dennis Michael Volpano	026009-000112US	7973
20350 7590 01/04/2008 TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			EXAMINER BROOKS, SHANNON	
			ART UNIT 2617	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/754,402

Applicant(s)

VOLPANO, DENNIS MICHAEL

Examiner

Shannon R. Brooks

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4,5,7,22-24,26,36,38-49 and 51-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7,22-24,26,36,38-49 and 51-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/16/07 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. **Claims 1, 2, 7, 22-24, 26, 38-39, and 51-55** are rejected under 35 U.S.C. 102(e) as being anticipated by Kitchin (US 7130904).

Consider **Claim 1**, Kitchin teaches an access point device for a wireless LAN for isolating an end station from a plurality of end stations to support segregation of network traffic between the end station and the plurality of end stations, the access point device serving as a common access point for communication in the wireless LAN, the access point configured to: receive a request from said end station that is an association request or a probe request; and process said request by:

determining for said request a basic service set (BSS) that is unknown (read as class of client or subscriber is unknown) to said access point device at the time of receipt of said request by said access point device (Col. 4, lines 33-67 and Col. 5, lines 1-10 and Col. 6, lines 16-47). ;

receiving at least one parameter defining said BSS (read as associating a BSS with a class of subscribers or clients, Pg. 6, lines 1-15 or BSSID or ESSID, Col. 6, lines 47-67);

Establishing said BSS based at least on said at least one parameter (read as established based on class of client or subscriber, Pg. 6, lines 1-15 or BSSID or ESSID, Col. 6, lines 47-67); and sending a response to said end station that includes a BSSID of said established BSS (Pg. 6, lines 47-67).

Consider **Claim 7**, Kitchin teaches a method in an access point device for a secure wireless network to support segregation of network traffic among a plurality of stations, each of said stations having a hardware (MAC) address, comprising:

receiving an association request or a probe request from a first station (read as accessibility via access point from beacon, Col. 6, lines 47-67);

determining for said request a basic service set (BSS) that is unknown to said access point device at the time said request was received by said access point device (read as through BSSID or ESSID, Col. 6, lines 47-67);

receiving at least one parameter defining said BSS (read as BSSID or ESSID, Col. 6, lines 47-67);

Establishing said BSS based at least on said at least one parameter, thereby creating a Basic Service Set (BSS) for a subset of said stations, and sending a response to said end station that includes a BSSID of said established BSS (read as BSS established based on class of client or subscriber, Pg. 6, lines 1-15 or BSSID or ESSID, Col. 6, lines 47-67);, wherein stations in said subset belong to said created BSS and share a group security association (Col. 6, lines 16-47).

Consider **Claim 2**, Kitchin teaches the access point device , further configured to provisiona plurality of separate LAN segments (**read as distinct physical media, Col. 4, lines 4-6**) while providing separate link privacy and integrity for each of said LAN segments (**Col. 6, lines 16-26**).

Consider **Claim 22**, Kitchin teaches the access point device of Claim 1, wherein said end station is a member of a Class-1 BSS or a Class-3 BSS at said access point device (read as support a distinct one BSS or multiple BSSs, Col. 6, lines 16-47).

Consider **Claim 23**, Kitchin teaches the access point device of Claim 22, wherein a Class-1 virtual BSSID is the BSSID field of every Class 1 and Class 2 frame that has such a field, and wherein a Class-3 BSSID is the BSSID of every Class 3 frame that has such a field (read as a distinct one and multiple BSSs may be identified by BSSID or ESSID frames in the BSSs, Col. 6, lines 16-67) .

Consider **Claim 24**, Kitchin teaches the access point device of Claim 22, wherein a Class-1 BSSID is the receiver or transmitter address field, where appropriate, for Class 1 and Class 2 frames, and wherein a Class-3 BSSID is the receiver or transmitter address field, where appropriate, for Class 3 frames (read as BSSID fields contain the MAC address of the access point, Col. 5, lines 16-44 and Col. 6, lines 16-67).

Consider **Claim 26**, Kitchin teaches the access point device of Claim 1, wherein if said access point device beacons for said established BSS, then an SSID element in every beacon specifies a broadcast SSID or an SSID for said established BSS (Col. 6, lines 48-67).

Consider **Claim 38**, Kitchin teaches the access point device of Claim 1, wherein before sending an 802.11 Data or Management frame to said end station, said access device is configured to perform the steps of:

identifying a security association for said frame (Col. 6, lines 16-47); and then using said association to construct an expanded (read as expanded through addition of encryption, (Col. 6, lines 16-47) frame for transmission according to an encipherment and authentication code protocol (Col. 6, lines 16-47).

Consider **Claim 39**, Kitchin teaches the access point device of Claim 38, wherein if a frame destination address is the address of said end station then a security association between said end station and said access point device is used in said frame expansion (read as expanded by addition of encryption, Col. 6, lines ); and

wherein if said frame is a Data frame (containing subscriber or client information) and its destination address is a group address (directed toward corporate clients or guests, Fig. 1) then said MPDU bridge protocol identifies a destination virtual BSS for said frame (Col. 5, lines 25-43), wherein a group security association for said identified virtual BSS is used in said flame expansion (read as encryption adds to group security, Col. 6, lines 16-47).

Consider **Claim 51**, Kitchin teaches the access point device of Claim 1 wherein said at least one parameter is provided by said end station (read as established based on class of client or subscriber, Pg. 6, lines 1-15 or BSSID or ESSID, Col. 6, lines 47-67).

Consider **Claim 52**, Kitchin teaches the access point device of Claim 1 wherein said at least one parameter is provided by a source other than said end station (read as provided based on class of client or subscriber, Pg. 6, lines 1-15 or BSSID or ESSID, Col. 6, lines 47-67).

Consider **Claim 53**, Kitchin teaches the access point device of Claim 1 wherein said request includes an SSID (service set identifier), wherein said at least one parameter is based on said SSID (Col. 6, lines 47-67).

Consider **Claim 54**, Kitchin teaches the access point device of Claim 1 wherein said request is for a Class-1 virtual BSS (read as request is directed a BSS with a distinct MAC address, Col. 6, lines 16-26).

Consider **Claim 55**, Kitchin teaches the access point device of Claim 22, wherein said access point device implements a MAC Protocol Data Unit (MPDU) bridge protocol, wherein a plurality of BSS's including said established BSS are known to said access point device (Col. 5, lines 25-67),

(A) wherein for an MPDU which has a null VLAN tag or is absent a VLAN tag and which has been received from a distribution system medium (DSM), said MPDU is relayed to one of said BSS's when either:

(1) a destination address of said MPDU is an address of an end station which belongs to said one of said BSS's and which is associated with said access point device (Col. 6, lines 14-22); or

(2) said destination address is a group address, said one of said BSS's has an end station which belongs to a group identified by said group address and which is associated with said access point device,

wherein an address for relaying said MPDU to said one of said BSS's is based on a BSSID thereof, (B) wherein for an MPDU which has a non-null VLAN tag and which has been received from a DSM, then:



(1) said MPDU is relayed to said one of said BSS's that is identified by a BSSID to which said non-null VLAN tag is mapped according to a DSM VLAN mapping of said access point device, wherein an address for relaying said MPDU is based on a BSSID of said identified BSS (Col. 3, lines 6-60); and (2) said MPDU is not relayed if a DSM VLAN mapping is undefined for said non-null VLAN tag (Col. 3, lines 6-60),

(C) wherein for an MPDU which is received from a wireless medium (WM), said MPDU is relayed to one of said BSS's identified by a source address field of said MPDU when said destination address of said MPDU is an address of an end station which belongs to said identified BSS and which is associated with said access point device or when said destination address is a group address (Col. 3, lines 6-60).

4. **Claim 44** is rejected under 35 U.S.C. 102(e) as being anticipated by Meier (US 6847620 B1).

Consider **Claim 44**, Meier teaches a fine bridging method for a wireless network, comprising [[the]] steps of:

decoupling identification of a broadcast or multicast domain with a Basic Service

Set (BSS) (read as send untagged frames (Col. 6, lines 14-22); and determining bridging behavior of an access point (AP) by a policy expressed as a directed graph (read as using fine bridging identity decoupling methods, Col. 6, lines 14-22); wherein for a given policy, a broadcast domain for a node is itself and all nodes it must access (read as members of VLAN,

Col. 6, lines 14-22); wherein said broadcast domain set of said policy is a set of broadcast domains for its nodes (read as set for members, Col. 6, lines 14-22); and wherein nodes of said graph are stations and there is an edge from a first station to a second station if and only if said first station must be able to communicate with, or access said second station, such that said second station must be able to receive directed or group frames from said first station (read as share tagged VLAN ID, Col. 6, lines 14-22).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 4, 5, 40-42, and 48-49** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitchen (US 7130904 B2) in view of Meier (US 6847620 B1).

Consider **Claim 4**, Kitchen teaches the access point device, comprising:, except that it does not specifically teach and a location-update protocol (read as protocol data units, PDUs) for updating forwarding tables of bridges that connect together other access points.

However, Meier teaches a location-update protocol (read as protocol data units, PDUs) for updating forwarding tables of bridges that connect said PAPs together (**Col. 4, lines 44-57**).

Therefore it would have been obvious to one skilled in the art at the time of the invention to incorporate the teachings of Meier into Kitchen to aid in the building of a spanning tree (**Col. 4, lines 53-57**).

Consider **Claim 5**, Kitchen teaches the access point device, comprising, except that it does not specifically teach a fine bridging method (**utilizing an 802.1Q bridge procedure**) for limiting communications between said end stations that belong to said established soft BSS.

However Meier teaches a fine bridging method (**utilizing an 802.1Q procedure**) for limiting communications between all said end stations that belong to a soft BSS (**Col. 4, lines 23-43**).

Therefore it would have been obvious to one skilled in the art at the time of the invention to incorporate the teachings of Meier into Kitchen to aid in assignment of unique identifiers (**Col. 4, lines 23-27**).

Consider **Claim 40**, Meier teaches the access point device of Claim 39, wherein said end station transmits an 802.11 MPDU of type Data or Management using a security association that said end station shares with said access point device (Col. 8, lines 10-15).

Consider **Claim 41**, Meier teaches the access point of Claim 40, wherein when receiving an 802.11 Data or Management frame from said end station, said access point attempts to decipher and verify integrity of said frame using a security association for an end station identified by a source address field of said MPDU (Col. 8, lines 10-15).

Consider **Claim 42**, Meier teaches the access point device of Claim 41, wherein when receiving an 802.11 MPDU of type Data or Management (read as all frames are associated, Col. 3, lines 35-39) from said access point device, said end station attempts to decipher and verify integrity of said frame by using a security association that said end station shares with said access point device if a destination address of said frame is an address of said end station, and by using a group security association if said destination address of said frame is a group address (Col. 4, lines 66-67 and Col. 5, lines 1-15).

Consider **Claim 48**, Kitchin teaches the method of Claim 42, wherein broadcast and multicast traffic in different virtual basic service sets is protected with different encipherment or authentication-code protocols in said network (read as a beacon can be encrypted for different BSSs, Col. 6, lines 16-67).

Consider **Claim 49**, Kitchin teaches the method of Claim 42, where unicast traffic between a PAP and a station and between said PAP and another station in a virtual BSS is protected with different encipherment or authentication-code protocols in said virtual BSS (read as each BSS may define a security policy, Col. 6, lines 16-26).

7. **Claim 36** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitchin (US 7130904 B2) in view of Yuasa (6085238)

Consider **Claim 36**, Kitchin teaches the access point device of Claim 55, wherein said an MPDU received from said DSM or said WM is also relayed to said DSM if a destination

address thereof is an address of an end station that is not associated with said access point device (read as not equipped to appear as multiple logical access points so inherently can belong to at most one, (Col. 6, lines 16-20); or if said destination address is a group address (read as address to Corporate Client group Or Guest group, Fig. 1);

But Kitchin fails to specifically teach wherein said MPDU relayed to said DSM has a VLAN tag if said DS is VLAN aware, and is untagged otherwise; and wherein said VLAN tag is a pre-image of said Address 1 field of said received MPDU under said PAP's DSM VLAN mapping.

However, Yuasa teaches wherein said MPDU relayed to said DSM has a VLAN tag if said DS is VLAN aware, and is untagged otherwise (Col. 7, lines 14-27); and wherein said VLAN tag is a pre-image of a source address field of said received MPDU under said DSM VLAN mapping Col. 5, lines 57-67 and Col. 6, lines 1-16).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to combine the teaching of Kitchin and Yuasa in order to aid in address group identification (Col. 6, lines 1-16).

8. **Claim 43** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yuasa (6085238) in view of Meier (US 6847620 B1)

Consider **Claim 43**, Yuasa teaches a location-update method for updating forwarding tables of bridges, or other interconnection media, that connect Public Access Points (PAPs) together, where multiple PAPs are attached to different bridges in a spanning tree of a bridged LAN and

an end station associates with one of said PAPs and then reassociates with a new PAP, comprising [[the]] steps of:

said new PAP sending a directed Bridge Protocol Data Unit (BPDU) to said PAP with which said station was previously associated (Col. 44, lines 30-Col. 44, line 12);

but Yuasa fails to specifically teach wherein destination address of said BPDU is current access point (AP) address of a Reassociation Request frame, which is a Class-3 virtual BSS identifier (BSSID); and wherein source address is a hardware address of said station; upon receiving a relocation MPDU at a particular port, a bridge updating its forwarding table with an entry that binds a receiving port to a source address of said MPDU; and said receiving bridge forwarding a relocation MPDU to its designated root port, unless said MPDU arrived on that port or said receiving bridge is a root of said spanning tree; wherein if said MPDU is received at said designated root port of said bridge or by a root bridge then it is forwarded according to a learned forwarding table of said bridge, which optionally comprises flooding said MPDU to all ports except said receiving port.

However, Meier teaches wherein destination address of said BPDU is current access point (AP) address of a Reassociation Request frame, which is a Class-3 (can consist of multiple BSSs) virtual BSS identifier (BSSID) (Col. 3, lines 51-60); and wherein source address is a hardware address of said station (read as from parent AP, Col. 3, lines 51-60); upon receiving a relocation MPDU at a particular port, a bridge updating its forwarding table with an entry that binds a receiving port to a source address of said MPDU (Col. 3, lines 61-67 and Col. 4, lines 1-21); and said receiving bridge forwarding a relocation MPDU to its designated root port, unless said

MPDU arrived on that port or said receiving bridge is a root of said spanning tree (Col. 3, lines 51-67 and Col. 4, lines 1-21); wherein if said MPDU is received at said designated root port of said bridge or by a root bridge (read as using spanning tree protocol, Col. 3, lines 51-60) then it is forwarded according to a learned forwarding table of said bridge, which optionally comprises flooding said MPDU to all ports except said receiving port (read as in accordance with spanning tree protocol, Col. 3, lines 51-60).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to combine the teaching of Yuasa and Meier in order to aid in reassociation requests (Col. 3, lines 51-60).

9. **Claims 45-47** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yuasa (6085238) in view of Meier (US 6847620 B1) and further in view of Kitchin (US 7130904 B2)

Consider **Claim 45**, Yuasa and Meier fail to specifically teach the method of Claim 43, further comprising the step of: providing a group security association per broadcast domain.

However, Kitchin teaches the method of Claim 43, further comprising the step of: providing a group security association per broadcast domain (Col. 6, lines 1-67).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to combine the teaching of Yuasa and Meier with Kitchin in order to aid in implementing a secure policy (Col. 6, lines 16-46).

Consider **Claim 46**, Yuasa and Meier as modified by Kitchin further teaches the method of Claim 45, wherein each station (node) possesses a first group security association of a broadcast domain for itself in said policy, and a second set of group security associations, one for every other broadcast domain in said policy of which said station is a member (Col. 6, lines 1-67).

Consider **Claim 47**, Yuasa and Meier as modified by Kitchin teaches the method of Claim 46, wherein said first group security association is used by said station for sending group frames and said second set of group security associations is used for receiving group frames (Col. 6, lines 1-67).

***Conclusion***

10. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shannon Brooks whose telephone number is (571) 270-1115. The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shannon R. Brooks

December 22, 2007

  
GEORGE ENG  
SUPERVISORY PATENT EXAMINER

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